

Currently under review by the EPA and the Upper Columbia River (UCR) Site Participating Parties, including the Colville Confederated Tribes (CCT), are two planning documents: a Problem Formulation Work Plan and a Sediment Quality Assurance Project Plan (QAPP). Both documents contain sections ~~related to which~~ that identify the organisms that will be used to evaluate the toxicity of UCR sediment to benthic invertebrates. During the course of the Problem Formulation dispute, EPA has communicated that the agency will not be requiring Teck to run a subset of sediment toxicity tests with a distinct test organism, the juvenile mussel *Lampsilis siliquoidea*. The CCT disagree with this strategy and believe that in order to make fully informed and protective decisions about toxicity, risk, and cleanup at the Upper Columbia River (UCR) Site, ~~information about the full spectrum of~~ the assessment of sediment toxicity to benthic invertebrates must include an evaluation of toxicity to juvenile mussels ~~in order to be considered sufficient~~.

Mussels are a taxon of special concern at the UCR Site, occupying a position similar to sturgeon in the 2006 Settlement Agreement. In the case of sturgeon, species-specific tests were designed and run by both the University of Saskatchewan and the USGS Columbia laboratory in order to provide information about this “non-standard” test organism. The CCT have consistently advocated for study of the effects of the Site’s contamination on mussels, and data from the USGS Columbia laboratory show that, at some sites, mussels are a more sensitive invertebrate than the standard test organisms currently proposed for the Site’s study of sediment toxicity to benthic organisms (amphipod and midge).

EPA and the parties, over a year long discussion developing a level of effort for such sampling, came to a consensus that the testing ~~a subset of~~ at least 12 samples for toxicity to juvenile mussels was needed to ascertain whether or not the mussels are sensitive to the unique combination of sediment characteristics (organic carbon, grain size distribution, contamination by multiple metals) found at the UCR site. It is not currently known what factor drives the increased mussel toxicity seen at some other sites; and, by testing ~~at least subset of~~ 12 sediment samples for their toxicity to juvenile mussels, information will be acquired about how sensitive the mussels are in a UCR Site-specific context. If those 12 tests show that mussels are not more sensitive than the amphipod and midge being tested simultaneously, there is no need to continue testing juvenile mussels. If the mussels are shown to be more sensitive than the other test organisms to some or all of the sediment samples, or if the tests provides unique information relative to the other test organisms, then mussels should continue to be included as a test organism when developing the relationships ~~of~~ between contaminant concentration ~~to~~ and toxicological effects. When planning for the second round of sediment toxicity testing and whether or not to include mussels, results that will trigger the inclusion or exclusion of mussels from future testing or use of Toxicity Identification Evaluations (TIEs) on samples toxic to mussels should be defined in the Round 2 Benthic Sediment Toxicity QAPP in order to alleviate concerns about ill-defined criteria determining paths forward.

It is unfortunate that such an inordinate amount of time and resources have been deployed to fight the inclusion of these 12 tests in the context of this large-scale UCR sediment toxicity testing plan. Also unfortunate is the appearance that EPA changed its position on inclusion of this test due to intense lobbying by Teck. Whether or not EPA agrees that Teck's forceful anti-mussel advocacy swayed the opinion of the project manager, the timeline of communication on this issue aligns with such a reading of the situation.